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First in a Series of
Papers on Apiculture
by SWARTHMORE

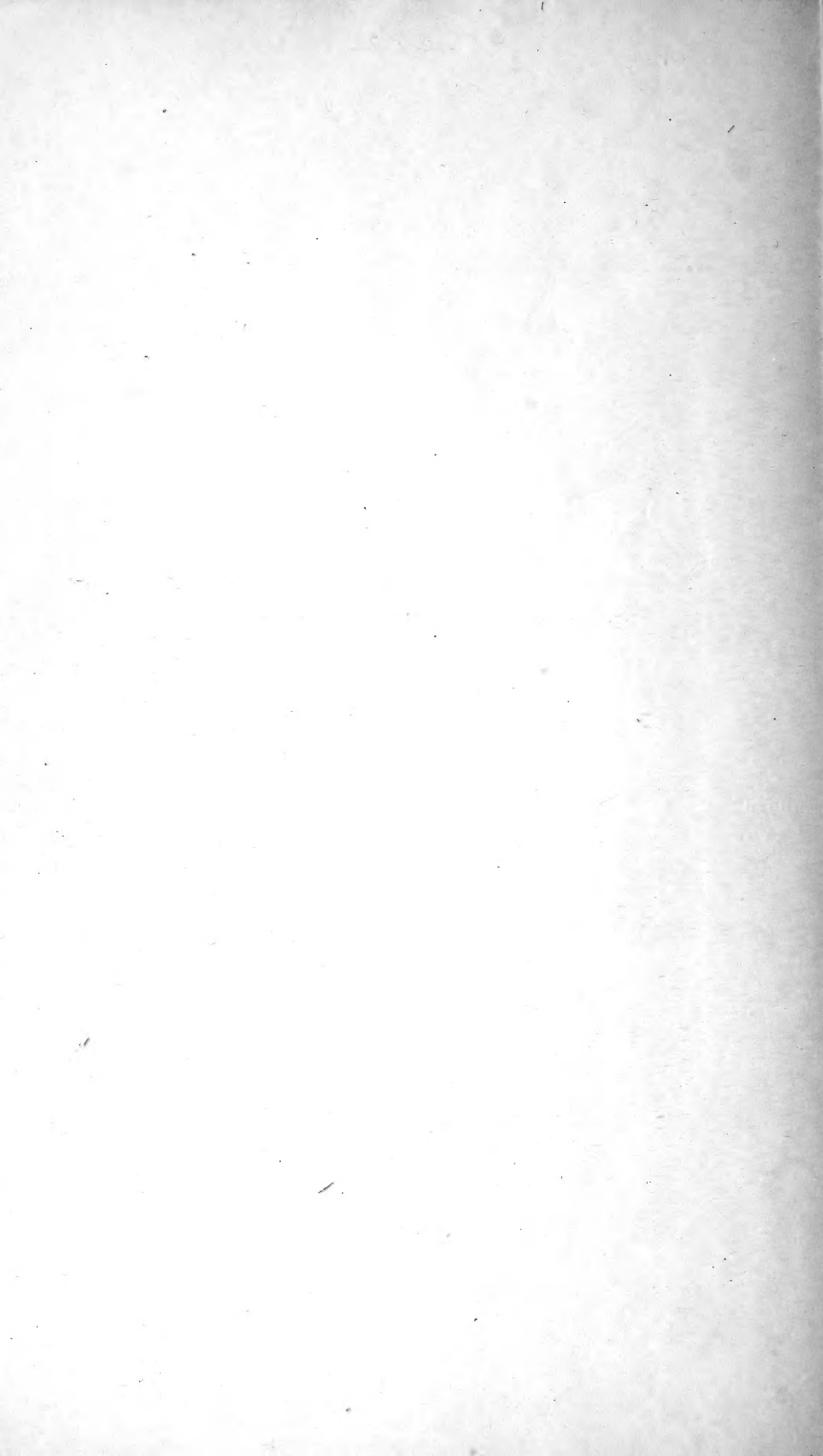


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First in a Series of
Papers on Apiculture
by SWARTHMORE

Eugene L. Pratt.

Cal 563
Vol 1

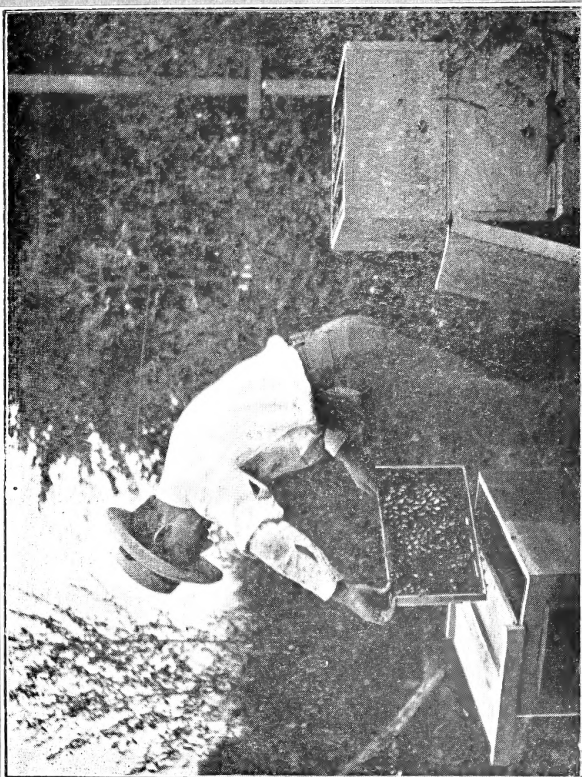
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Published by the
SWARTHMORE APIARIES
Swarthmore, Pa., U. S. A.
1905

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12-37839



Photograph by Mr. John M. Hooker.

PLATE NO. 1.
Shaking Bees Into the Prepared Hive.

“Increase”

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O U are doubtless anxious to increase your colonies to make up for winter losses.

Many of the plans of dividing, taught by the text books, are ruinous to good working stocks—prospects of honey, even for winter-

ing, say nothing of surplus, are crippled

frightfully; both halves of the division are

disheartened, set back or weakened, and it

is weeks and weeks before either can re-

cover from the shock of deprivation—by this

time the honey flow is past, all is lost, and

you simply have two half-starved colonies

to feed and nurse up for winter. The loss



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in egg-laying by the old methods of division is serious, and the death of open brood deplorable. Don't ruin good working stocks by practicing old, obsolescent methods of dividing; they have had their day. The "Swarthmore" method of increase is so simple that the novice can practice it with full success. Labor is reduced to one sure and simple operation. Full stocks are not bled to death, nor does it "rob Peter to pay Paul."

This method is so close to the natural way that the increase at once goes to work with the vigor of a prime swarm and will not only build up rapidly to a full stock but will give a surplus. By the purchase of queens to head them, new colonies may be established surely and safely from powerful stocks every ten or fifteen days.

When bees increase naturally they take with them a queen, young bees and honey.

Bees to increase with self-feeding

1000 1000 1000

I N C R E A S E

nothing more. Take advantage of this condition and form your new colonies accordingly.

Scoop the loafers from the fronts of your hives and set them to work.

PREPARING THE HIVE.

Make a bottom-board fast to an empty eight-frame body and adjust a screen to the entrance, that will be convenient to remove and replace later on, and select a cover that will fit bee-tight and not bother when the time comes to use it.

Place in this prepared hive five nice clean combs making sure that some of them contain a little honey, to guard against starving your swarm should it rain for several days directly after hiving, but no brood.

If you have no drawn comb and still desire to increase your colonies, full sheets of foundation can be used the same as though

Don't increase faster than you can care for well.

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they were combs. Place in the hive one comb of honey, then four full frames of well wired foundation, then the follower—then shake in the bees.

In connection with the use of foundation it might be well to say here that bees shaken in this manner will almost invariably build worker comb, if given a laying queen, and if starters only are furnished in the frames one is almost certain of securing some handsome all-worker combs at no cost.

If starters of foundation are to be given, the number of frames should be reduced. Give two when the bees are shaken and then add one at a time, on the outside, until the hive is filled with combs.

To build up colonies in this manner one must have a good field, and a constant honey flow; feeding will answer in lieu of a honey flow.

By a careful exercise of wit swarming can be prevented entirely.

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ARRANGEMENT OF THE NEW HIVE.

Push the five combs to one side, insert a hanging division-board and make all fast with two nails in such a manner that the hive can be carried without fear of the frames shifting out of place.

Cover the whole surface of the hive with a sheet of enamel cloth and tack it in place with four tacks—two at the corners and two directly over the division-board in such a manner that the portion of the sheet coming over the space in the hive not filled with combs can be turned over for purpose of shaking in the bees.

If your covers are of the flat types the sheet may be omitted, and by simply sliding the roof to one side, as shown in the photograph, (plate No. 1) the bees may be shaken forthwith into the opening.

Give a colony a good queen and it will work out its own salvation. All other thought-to-be-important-points are in reality subordinate.

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SHAKING THE SWARM.

On a fine morning take your prepared hive to a booming stock, slide the cover over or turn back the flap. Set the hive in a position to receive shaken bees without loss of time.

Now smoke and open the full stock and shake into the prepared hive all the bees from off four or five combs of brood, being careful not to get the queen.

To shake the bees neatly and well, lower the comb to half its depth into the opening, and with several quick downward jerks all adhering bees are suddenly dislodged.

If you have prepared your hive as it should be the shaken bees will immediately run under the division-board and up onto the combs under the sheet or cover out of the way, leaving all free to turn back the flap or slide on the cover.

Make your bees pay their way—and
a little more if you can.

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After closing the prepared hive return all the brood combs to the full stock and close that hive.

Then remove the prepared hive, now stocked with queenless bees, to a cool dark place, and there let it remain in hopeless queenlessness until towards evening—then and not until then run in a laying queen.

INTRODUCING THE QUEEN.

To introduce the queen slide the cover over a bit on the comb side and turn back a corner of the sheet to admit her without allowing a bee to escape. If you do not object to cutting your hives a small hole bored in the front, to be plugged with a cork, will be found convenient for a flight-hole as well as for introducing queens.

When the queen has run in, nail the cover down and that night or the next morning early remove the prepared hive to a loca-

I have seen bees in cheese boxes quite as prosperous as those in the most elaborate chaff hive.

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tion at least a mile away and there let it remain for two or three days, or even longer will do no harm.

When you bring the bees home, which should be done before they get too heavy, fill the hive with empty combs and in sixty days you will have a stock which will itself stand a "shake" or section boxes may be put on.

In ten or fifteen days the full stocks will stand another shake and so on until you have multiplied to your full number of colonies.

It is better to introduce laying queens to colonies formed in this manner, but virgins of any age may be used, and if the season is not too far advanced these young queens will mate and build up strong colonies in time for winter.

For this purpose natural swarm cells can



Photograph by Mr. John M. Hooker.

PLATE NO. 2.
Portable Swarm Box Arranged for "In-crease."

I N C R E A S E

be saved and hatched in Swarthmore nursery cages as explained in "Cell Getting."

A SIMPLE CELL GETTING PLAN.

Shaken bees will build a number of cells which may be cut in the old way, and hatched for use in future forced swarms. Place a partially built down comb, or a wide starter of foundation, into the hive containing your best queen mother three or four days previous to forming the first new colony and eggs in plenty, the exact age for queen cells, will be secured—now, when you shake your first swarm put this comb into the swarm-box or prepared hive. Ten days later cut and cage all but one cell. To mate these queens when hatched see "Baby Nuclei."

By inserting a comb of young brood, at time of shaking, the forced swarm will rear a queen, in time, for itself; but unless this

Don't discourage increase, but prevent swarming if you know how.

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is done quite early in the season one's increase will be very slow in building to strong colonies.

THE BUSY MAN'S WAY.

If you are a busy man and have only mornings and evenings at home this plan of increase is just what you need—it holds swarming in check and reduces manipulation. Queens, either virgin or⁴ fertile, are safely introduced directly and there is no fuss in looking after colonies too weak to defend themselves.

For such a man I have designed a plan that can be followed with perfect satisfaction as regards labor, trouble and expense. It is as follows:

PORTABLE SWARM-BOX.

Build a neat, light hive body to hold just five frames; cover the bottom of your box with wire netting nailed on firmly with cleats

The loss of a queen to a big colony is a loss indeed—too great to continue long.

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all around. Now provide a lid of thin stuff that will just fit the top of the swarm-box; cleat it well and provide means for fastening this cover. Bore an inch hole at one end of the box, low down, for an entrance and provide a cork or a button of section stuff for purpose of speed in opening and closing the entrance.

This box may then be used on the same plan as outlined above and you will have something that can be conveniently carried on street or steam cars—just like a suit case.

Shake your bees in the morning and at evening run in the queen. After dark throw a strap or cord around the box, board a car with it and set it out one mile away. Draw the cork from the flight hole and catch the next car home.

When you take out another boxful bring home the one formed a few days before and

Swarming is not increase—nor is it decrease, exactly.

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so on. In this manner two boxes will keep you going with all the increase you can take care of.

To hasten the work of preparation for moving we have what we call an adjustable handle; which is simply, two wires slid through a handle and bent in such a manner that the four ends will hook into four staples driven into the sides of the swarm-box, as shown in plate No. 2. One of these handles will answer for several boxes and the shawl strap may then be dispensed with.

CARE OF BEES FROM OUT-YARD.

When the boxes of bees are brought home let them fly from the box a few days, then lift them into standard hives and fill with empty combs or those containing some honey, or foundation in starters and full sheets may be used, and in a remarkably short time all the combs will be covered

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with bees and well filled with brood and honey.

If no honey is coming in, feeding will accomplish the same end and increase can be carried on to the same extent. Have the feed flavored with a little honey if possible and provide it regularly in the feeder that suits you best. I have used an entrance feeder with satisfaction because it is applied from the outside, can be filled quickly and is convenient for the one who is feeding for increase.

This feeder is simply a shallow tin or paper pan which can be slid into the entrance to any hive flat upon the bottom-board. A portion of the pan protrudes from the entrance (not over one inch), allowing one to simply pour in the feed from a tea pot, quickly.

Unlike other stock, bees consume nothing—yet add much.

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If you have a sure autumn honey flow colonies may be started quite late in the season, and by inserting a frame or two of hatching brood, taken from some of the powerful colonies, at time of bringing home, these late formed colonies will build to moderate strength and will gather enough from the golden rod, yellow flower and aster to winter over. The earlier ones are more successful, however, in that they will likely store a surplus.

Never give brood to a newly formed colony until after the queen is safely introduced lest the confined bees ball the queen directly she is run into the box.



"Baby Nuclei"



IN this book Swarthmore thoroughly covers the field of small mating nuclei management; he has had 20 years' experience in mating young queens from section combs, with but a handful of bees, and feels competent to write on the subject.

Handsomely printed, charmingly illuminated, artistically bound and profusely illustrated with actual photographs taken in a booming queen-rearing establishment at the height of the season. 50 cents postpaid.

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Swarthmore, Pa., U. S. A.

LIST of BOOKS TO FOLLOW

Cell Getting by the Swarthmore Fressed Egg Method

The plan that has revolutionized queen rearing throughout the world. The entire process fully explained and illustrated by photos., from actual life and vividly showing all the labor-saving points in the best system ever invented.

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At cost of only a few cents each. Full specifications, complete bill of stock and detailed drawings which will enable any beekeeper to construct his own hives, supers, etc., with a pair of shears, back saw and hammer. Used by Swarthmore.

A New Comb-Honey Device

Which entirely does away with close fitting holders and separators, allowing a producer to secure more marketable comb honey with no more danger of swarming than when run for extracting.

Breeders of the Brightest Golden Bees—Prize Stock
Queens Posted Safely at \$1 or 5s each.

SWARTHMORE QUEEN REARING OUTFITS.

Price List of Complete Outfits for
Rearing and mating Numerous Queens.

Perfect Nursery Cages with removable compressed queen cells. Directions go with each Outfit which will enable the small bee keeper to rear a few queens for his own use. Simple devices easily understood by any beekeeper; 1st prize, Royal Show, London.

Leading queen specialists have adopted the Swarthmore plan because of its simplicity and saving—testimonials for the asking.

OUTFIT NO. 1:—Experimental.

- | | |
|--|-------------|
| 12 Transfer Cages..... | 1.25 |
| 12 Wooden Cups, waxed, ready for larvae... | |
| 1 Cell-Bar, bored, for shells..... | |
| 1 Holding-Frame, with full directions..... | Post Paid |
- We will add a Swarthmore Nursery for 25c more.

OUTFIT NO. 2:—Amateur.

- | | |
|--------------------------------------|-------------|
| 2 Cell-Bars, bored, 16 holes | 3.50 |
| 35 Waxed wooden cups | |
| 1 Holding Frame..... | |
| 18 Transfer Cages, or hatchery | Post Paid |
- Cell-cleaning stick, grafting tool and directions.
We will add a Swarthmore Nursery for 25c more.
- 1 sample Baby Mating Box, with directions, by post, 50c.
1 sample Transfer Cage with waxed wooden cup, 10c.

OUTFIT NO. 3:—Professional.

Includes, 1 Grace Cell Compressor, 100 blank Shells, 1 set Cell Bars and Starting-Frame, 2 Swarthmore Nursery Cages and Holding Frame, 10 Improved and complete baby Mating Boxes, 18 Transfer Cages, Etc. By express or freight, \$6.50

Compressed Cells can be used over and over; the oftener they are used the better they work—we compress cups in removable Wooden Cups at 2c each; or you can own a Grace Cell Compressor for \$2, post paid; with goods, flat, \$1.75. Blank Shells, 1c each. Glass Bottle Feeders, 5c each. Mating Boxes in lots of 6, flat, \$1. Bulb Filler or Feeder \$1.

THE SWARTHMORE APIARIES,
SWARTHMORE, PA., U. S. A.

We wish to call particular attention to the Swarthmore wooden cup and its many advantages for rapid handling of queen cells. We make these cups in many sizes, to order, and drill holes to suit special purposes, but for the ordinary run of queen work we recommend the standard three-fourth shell with one-half inch hole, for holding the wax to be compressed into queen cups, with flange to prevent the cup from slipping clear through when cells are inserted in either cell-bars or cages. Some use a tick to attach the cells to the under side of a plain bar—we will add these ticks to the standard flange shell and will drill holes to receive separate wax cups, if desired, without extra charge; then the same shell can be used either way. But we believe the most of you will prefer the convenience of drawing your cells from top for the reason that manipulation is reduced fully fifty per cent., for all the work of cell shifting can be done through a slit in the sheet, without removing combs, one cell at a time or by the barful. Much disturbance to colonies ruins their chances on honey and in wintering well. This standard shell in combination with a compressed cup makes an everlasting queen cell; one that can be grafted over and over again with increasing success—it's wasteful to destroy a good cup each time a queen hatches.

To transfer larvae—Select none but just-hatched eggs and with a camel's-hair brush, quill, or pointed tool, lift the "little worm" tenderly and deposit it in the bottom of the cup in the same position it occupied in the comb.

The Swarthmore transfer cage is a separate nursery cage used for introducing queens on the candy plan. This cage has been sold by us for several years and we have found it useful for hatching, introducing or pre-introducing, and for confining either fertile or unfertile queens, also for mailing queens away. Twelve of these handy nursery cages will fit in the Swarthmore open frame; thirty-six will hang loosely on bars in a Hoffman brood-frame; or 48 will fit tightly in any standard brood-frame; making a perfect all-purpose cage and the most successful separate nursery ever put on the market—Send for sample and convince yourself of these claims.

The Swarthmore Nursery is, with out doubt, the most extensively sold queen rearing device ever put on the market. By its use much labor is saved in caring for queen cells at the incubating period. It can be permanently located in any colony ready to receive cells at any time without the least disturbance to honey stocks, being on a level with the tops of the frames; cells may be manipulated at will, singly or by the barful, by simply raising the quilts; fur-

thermore no dequeening of stocks is necessary when this cage principle is used. As a combined hatchery it has no equal and breeders doing business on a large scale can hardly get along without it.

The Grace Cell Compressing Machine needs no introduction—it has been used for several years with most astonishing success and has crowded all cell dipping off the earth. We can supply hand tools for forming cells but we believe you will at last resort to the machine because of its saving in time and labor. Many have earned the price of a machine ten times over by pressing cells for others.

Any queen rearer who uses more than a hundred or two bees for mating virgin queens is not using the most economical plan. We are working large numbers and still recommend Swarthmore Fertilizing Boxes. If you care to investigate the wondrous saving qualities of this mating nucleus we will gladly supply what information we have gained in several years practical work with them in mating thousands of queens for market.

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Swarthmore, Pa., U. S. A.

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